



CA Water Plan Update 2018

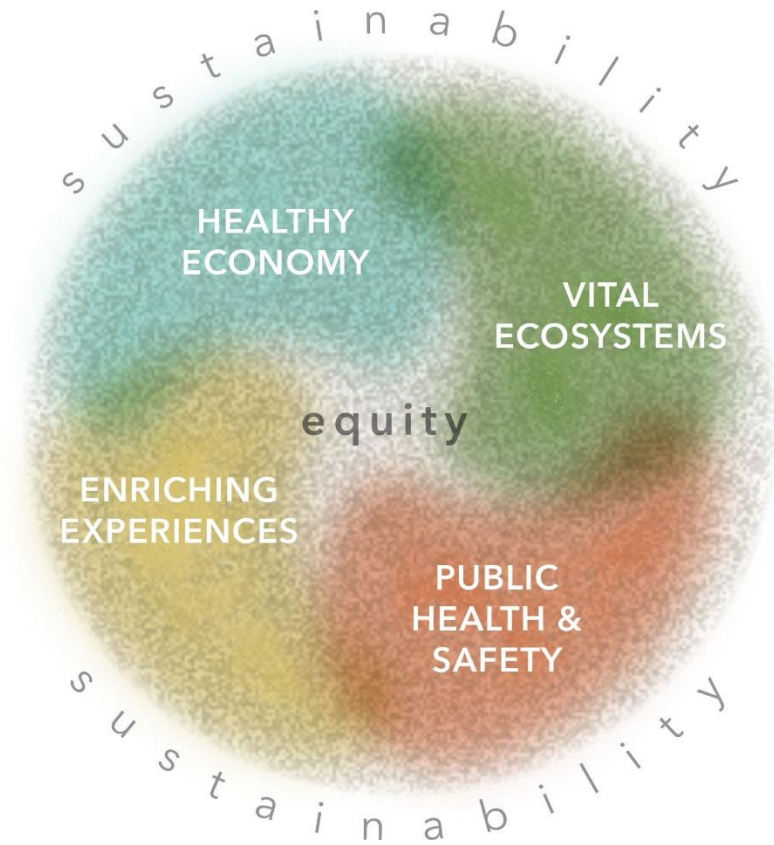
Envisioning Cal Water Sustainability

**2018 California
Tribal Water Summit
April 5, 2018**



California Water Plan Update 2018 Highlights

- ❖ Operational definition of sustainability
- ❖ CA Water Today
-- challenges & drivers
- ❖ Actionable recommendations
- ❖ NEW -- Implementation Plan & Funding Options
- ❖ NEW -- Annual Reports to track progress & adapt



CA Water Plan Update 2018

Table of Contents – Under 100 pages

Chapter 1: Envisioning California Water Sustainability

Vision and goals for water management sustainability in California

Chapter 2: Sustainability Outlook

Conditions assessment, intended outcomes & indicators/metrics

Chapter 3: Actions For Sustainability

Objectives and recommended actions - 5-year & longer term

Chapter 4: Investing in Water Resources Sustainability

Needed funding -- cost & trade-offs of available & novel funding mechanisms

Chapter 5: Implementation Plan and Funding Options

Actions, actors, schedule & funding options

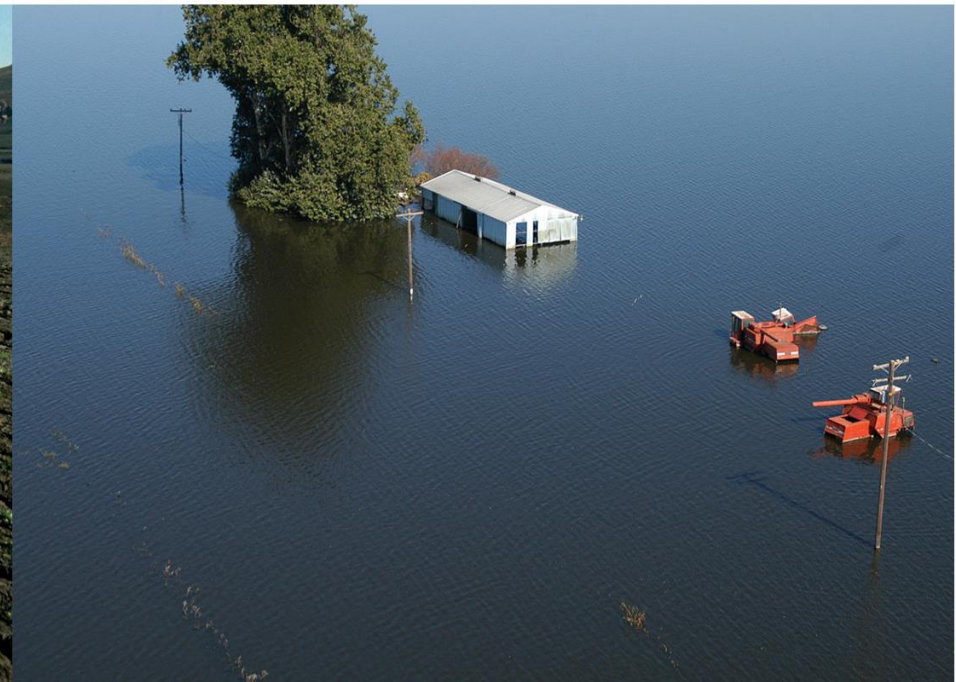
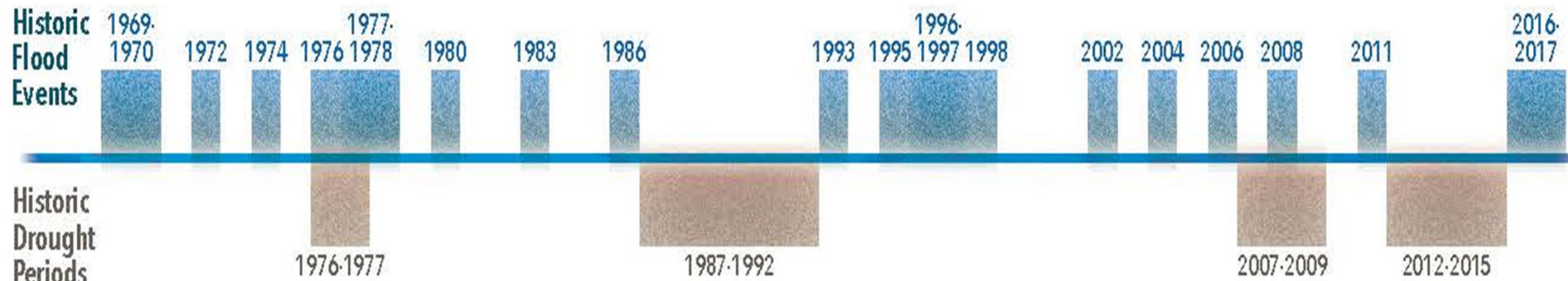
California Water Plan Update 2018

Key Messages

- ❖ Water challenges are threatening Californians well-being
- ❖ Update 2018 has a shared vision for California's water future
- ❖ Bold action will overcome critical (& systemic) challenges
- ❖ Sufficient and stable funding needed for sustainability
- ❖ California's values - a common aspiration for water sustainability
- ❖ The Way Forward – everyone has a role to play

California's Water Management

A Tale of Two Extremes



Water Challenges Threaten the People and Ecosystems of California

- ❖ Greater Drought Impacts - Unreliable Water Supplies
- ❖ Increasing Flood Risk
- ❖ Groundwater Depletion and Subsidence
- ❖ Degraded Water Quality
- ❖ Declining Environmental Conditions
- ❖ Aging Infrastructure
- ❖ Climate Change Impacts



Low water level at Folsom Lake (January 2014)

Reactive Management is Not Sustainable

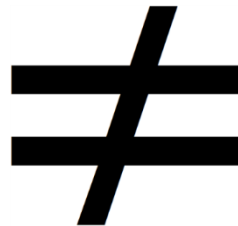
Our historical focus on water management has been reactive and oriented to individual projects

Repair + Ration + Regulate

...aging infrastructure

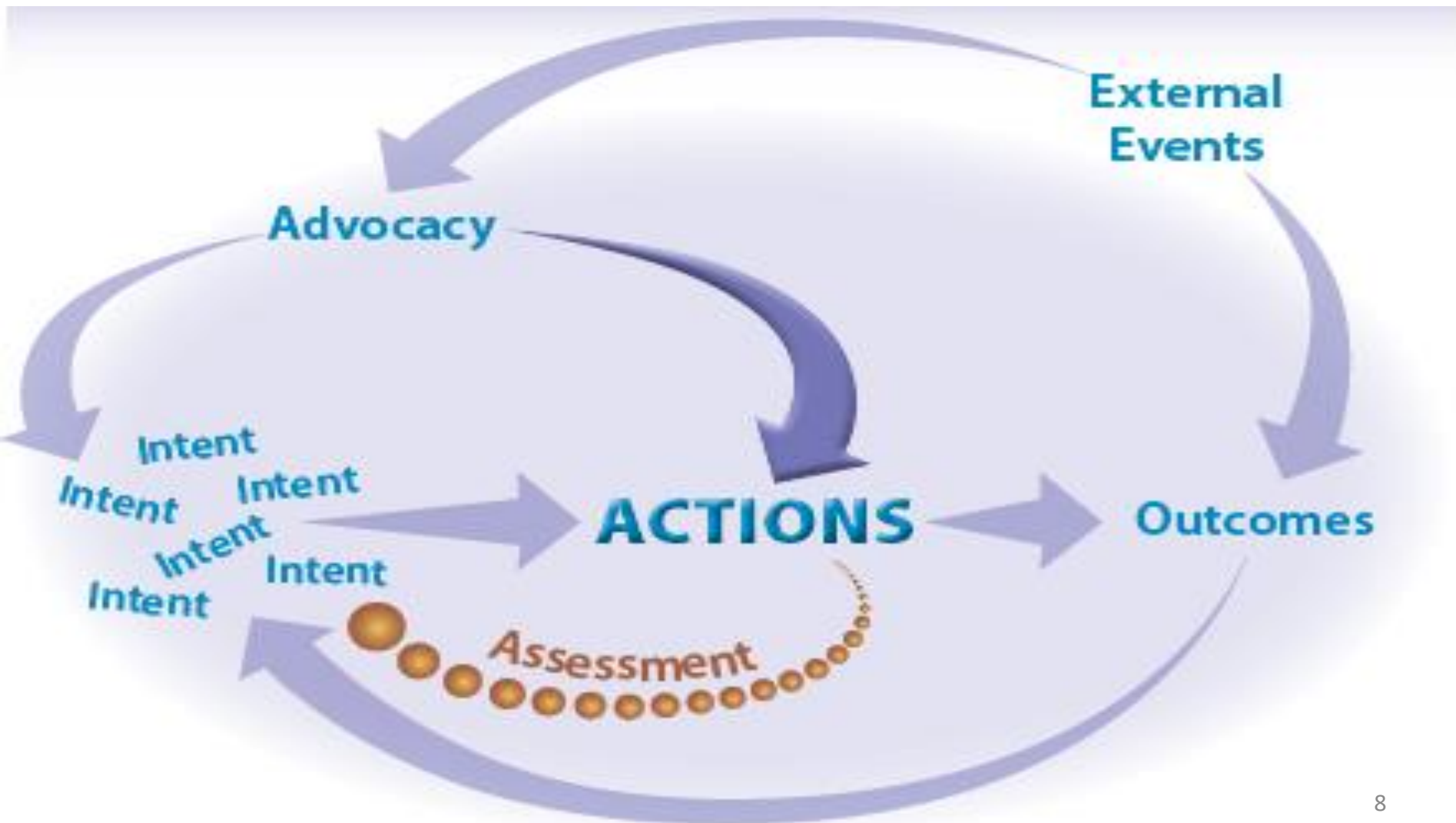
...in response to drought

...to comply with statutes &
respond to droughts



Sustainability

Today's Water Management System Focuses on Advocacies and Actions

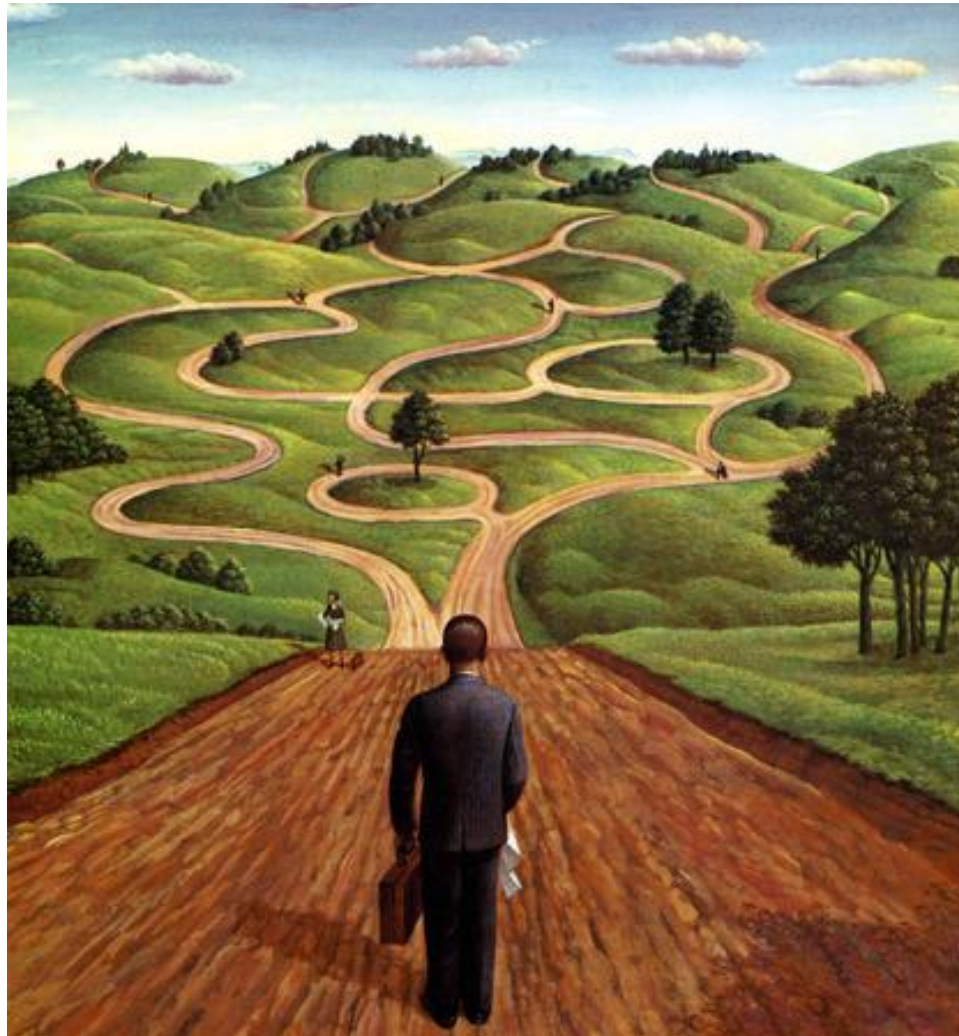


Sustainability Requires :

- ❖ Taking a Long View
- ❖ Shared Intent & Outcomes
- ❖ Alignment
- ❖ Balancing What Californians Value
- ❖ Time and Commitment



Sustainability Requires a Long View

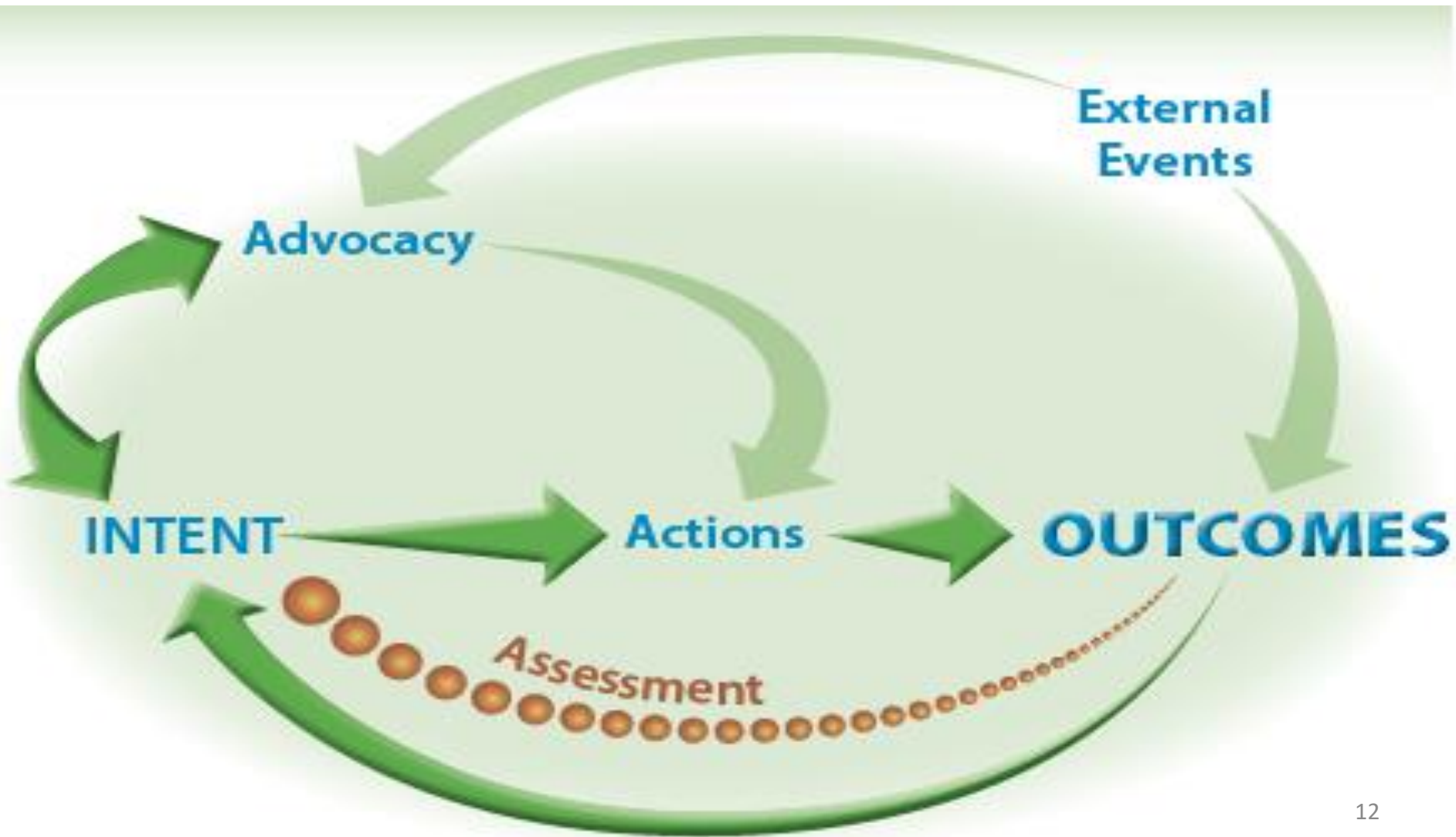


Update 2018 Shared Vision



- ❖ All Californians are protected from health and safety threats and emergencies.
- ❖ California's economy is healthy and all Californians have opportunities for economic prosperity.
- ❖ Ecosystems in the state are thriving.
- ❖ All Californians have opportunities for enriching experiences.

Sustainability Requires Shared Intent & Outcomes



Update 2018 Goals to Overcome Challenges

1. New/Modernized Infrastructure & Restored Ecosystems
2. Improved Alignment of Decisions, Initiatives & Actions
3. Improved Regulatory Outcomes
4. Informed & Adaptive Decision-Making
5. Sufficient and Stable Funding



Bold Action to Overcome Challenges

Vision



5 Goals



10 Objectives



34 Recommended Actions

Table ES-1. Update 2018 Recommended Actions Organized by Goals and Objectives

Goals	Objectives	Recommended Actions
Goal 1 New or Modernized Infrastructure & Restored Ecosystems	Objective 1 Improve Infrastructure & Ecosystems	Green and Grey Infrastructure Assessment Green and Grey Infrastructure Investment Statewide Green Infrastructure and Working Landscapes Task Force Integrated Land Use and Water Management Program Integrated Flood Managed Aquifer Recharge
	Objective 2 Improve Operations & Maintenance	Operations and Maintenance Assessment Operations and Maintenance Investment
Goal 2 Improved Alignment of Decisions, Initiatives, and Actions	Objective 3 Align efforts Around the Four Societal Values	Inventory and Evaluation of State Government Responsibilities State Agency Alignment and Investment Prioritization Plan Alignment Federal Advocacy Program
	Objective 4 Effectively Manage Watersheds Over the Long-Term	Alignment at Appropriate Scales Enhanced State-Regional Engagement in California Water Plan Updates Enhanced Engagement in Integrated Regional Water Management Groups Disadvantaged Community Liaisons
	Objective 5 Strengthen Relationships with California Native American Tribes	Add Tribes to Lead Agency Definition Tribal Involvement in Regional Planning Efforts Tribal-State Grant and Loan Contracting

California Water Plan Update 2018

Objective 5 – Strengthen Relationships with California Native American Tribes

- Goal 2 – Alignment of decisions, initiatives & actions
- 1 of 10 Water Plan Objectives
- California Native American Tribes are increasingly involved in planning and water resource decision-making processes while maintaining their sovereign authority.
- 3 Related Actions
 - Add Tribes to Lead Agency Definition.
 - Tribal Involvement in Regional Planning Efforts.
 - Tribal-State Grant and Loan Contracting.



Bold Action to Overcome Challenges (Continued)



Goal 3 Improved Regulatory Outcomes	Objective 6 Resolve Common Regulatory Challenges	Programmatic Environmental Compliance Task Force Ecosystem Restoration Project Permitting Evaluating Alternative Compliance Pathways Delegation of Federal Permitting Cooperative Agreements
Goal 4 Informed and Adaptive Decision-Making	Objective 7 Build Capacity for Data-Driven Decision-Making	Comprehensive Water Resource Data Collection and Management Program Economic Benefits of Ecosystem Services Climate Science and Monitoring Program Sustainability Outlooks Regional Water Management Atlas State Water Resource Management Sector Plans Statewide Water Storage Reconnaissance Program
	Objective 8 Improve Adaptive Management	California Water Plan Annual Reporting Reporting Requirements for State Financial Assistance
	Objective 9 Increase Californians' Awareness of Water Resources	Water Resource Education
Goal 5 Sufficient and Stable Funding	Objective 10 Increase Consistency and Diversity of Funding Mechanisms	Removal of Funding Barriers Novel Funding Mechanisms Feasibility Study State Agency Participation in Enhanced Infrastructure Finance Districts

Action Fact Sheet

Action 1.1.1 – Green and Grey Infrastructure Assessment

Action: DWR will collaborate with other State agencies to develop a program to assess needs and invest State funding to modernize and rehabilitate infrastructure & conserve ecosystems - including any of the Water Plan resource management strategies.

Context: Decades of deferred infrastructure development, modernization, and rehabilitation, combined with a lack of restoration of continuous, functioning ecosystems, pose significant risks to every societal value.

Intent: Make State funding available for State, regional, and local investment based on infrastructure priorities identified in the Infrastructure Assessment or equivalent study.

Value-Added:

- Sustain or increase levels of service from infrastructure.
- Sustain or increase ecosystems and the services they provide
- Increased resiliency to changing and extreme hydrology

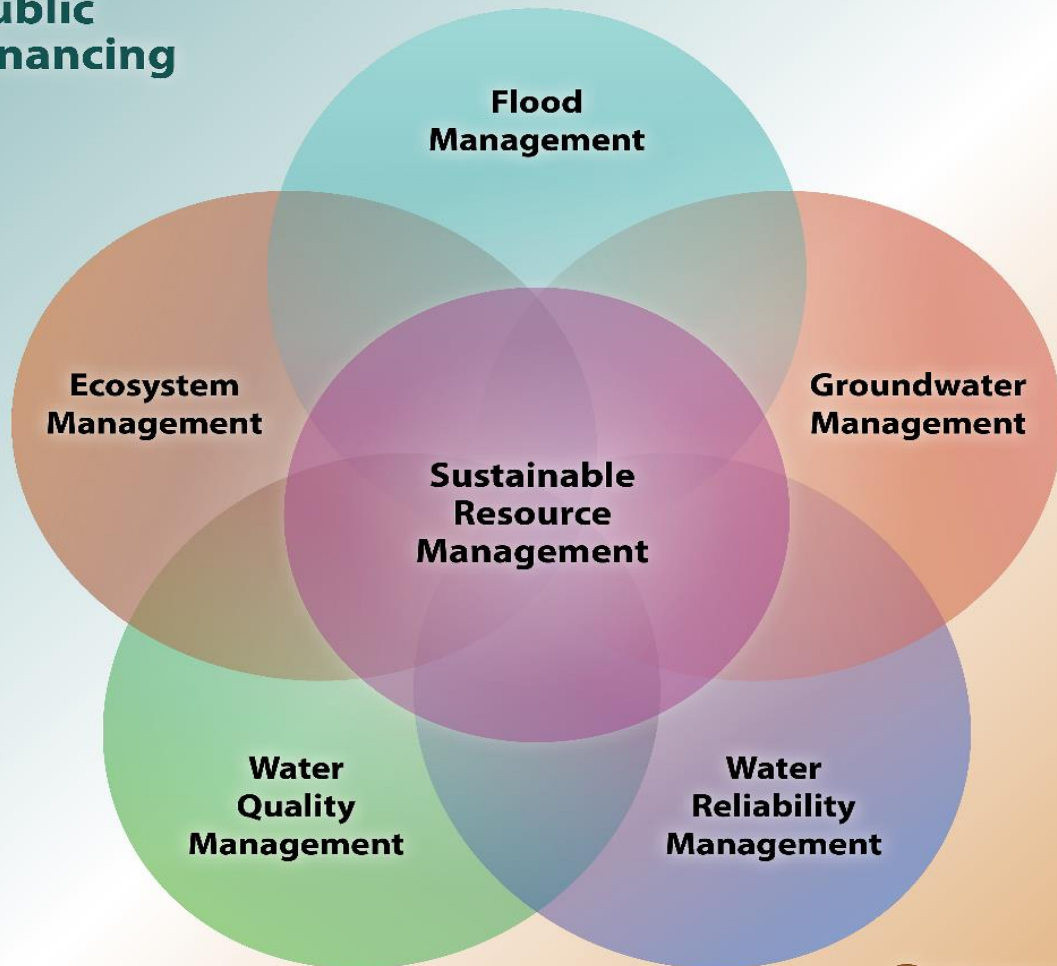
State Roles: Lead – CNRA; Partners – CalEPA & CDFA

Implementation Costs:

2019	2020	2021	2022	2023
\$215M	\$215M	\$215M	\$300M	\$300M

Sustainability Requires **Alignment**

**Public
Financing**



**Ratepayer
Financing**

Multi-Sector
Collaboration

Multi-Discipline
Planning

Multi-Benefit
Projects

Multi-Fund
Investments

Sufficient & Stable Funding Frame of Reference



- ❖ State spends about \$2 billion/year on water management
- ❖ State allocates only 2% of State General Fund to water
- ❖ Local/regional entities pay about 80% of total investment
- ❖ Historical investments not explicitly informed or balanced by what Californian's value
- ❖ Future investment need is at least \$350 billion over 50 years

Sufficient and Stable Funding

85% for regional and local programs/projects (\$ millions)

Table ES-2. State Funds Needed to Implement the Recommended Actions, Organized by Goals and Objectives (2016 Dollars)

Goals	Objectives	Years 1–5 2019–2023 (\$ millions)	Years 6–10 2024–2028 (\$ millions)	Years 11–30 2029–2048 (\$ millions)	Years 31–50 2049–2068 (\$ millions)
Goal 1^{a, b} <i>New or Modernized Infrastructure and Restored Ecosystems</i>	Objective 1 Improve Infrastructure & Ecosystems	1,898	3,015	28,340	32,300
	Objective 2 Improve O&M	1,167	2460	10,400	10,400
Goal 2^c <i>Improved Alignment of Decisions, Initiatives, and Actions</i>	Objective 3 Align efforts Around the Four Societal Values	5.25	4	15	15
	Objective 4 Effectively Manage Watersheds Over the Long- Term	52.5	79	316	316
	Objective 5 Strengthen Relationships with CA Native American Tribes	1.25	0.25	0	0
Goal 3^c <i>Improved Regulatory Outcomes</i>	Objective 6 Resolve Common Regulatory Challenges	6	0	0	0
Goal 4^c <i>Informed and Adaptive Decision-Making</i>	Objective 7 Build Capacity for Data-Driven Decision-Making	228	260	1,010	1,010
	Objective 8 Improve Adaptive Management	2	2.5	10	10
	Objective 9 Increase Californians' Awareness of Water Resources	0.75	1.25	5	5
Goal 5^c <i>Sufficient and Stable Funding</i>	Objective 10 Increase Consistency and Diversity of Funding Mechanisms	2	0	0	0
TOTAL		\$3,363	\$5,822	\$40,096	\$44,056 => \$93,337

State Funding Options To Implement Update 2018 Actions

❖ Utilize Current Mechanisms at Maximum Historical Levels, with Novel Mechanisms

- ☐ Historical maximum State General Fund and GO bond use
- ☐ Tax or assessment of about \$8 per month per household above the federal poverty level (~ \$3 per person)

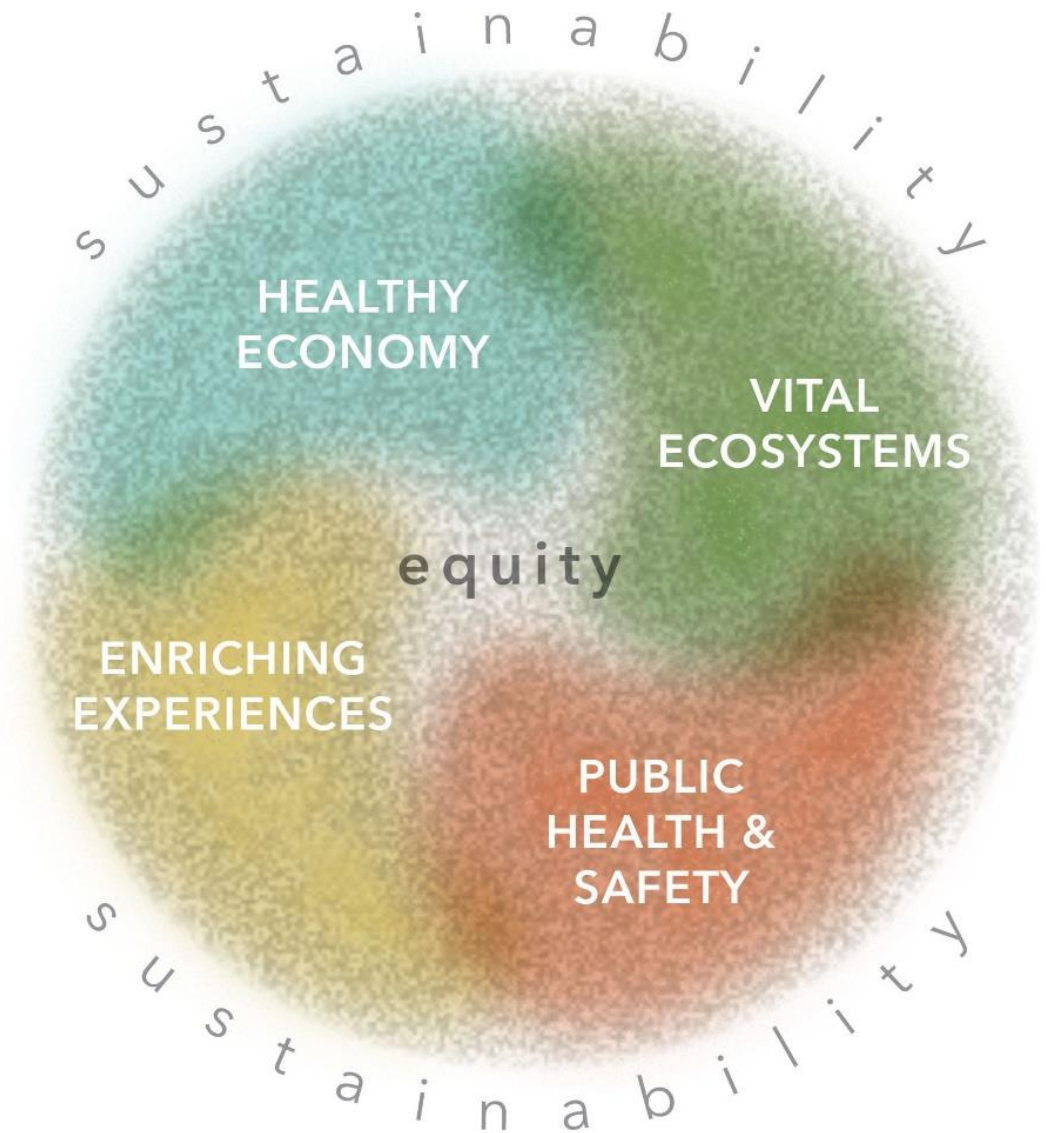
❖ Replace Novel Mechanisms with Additional State General Fund

- ☐ Requires over 5 times the historical average State General Fund for water
- ☐ Historical maximum funding from GO bonds

Sustainability Requires Balancing Values



Dynamically
balancing four
societal values
with
equitable
distribution of
benefits and impacts



The Sustainability Outlook Demonstrates Return on Investment

**Sample Societal
Value**



**Public
Health &
Safety**

**Sample Intended
Outcome**

**An adequate water
supply for domestic
needs, sanitation, and
fire suppression**

**Sample Sustainability
Indicator**

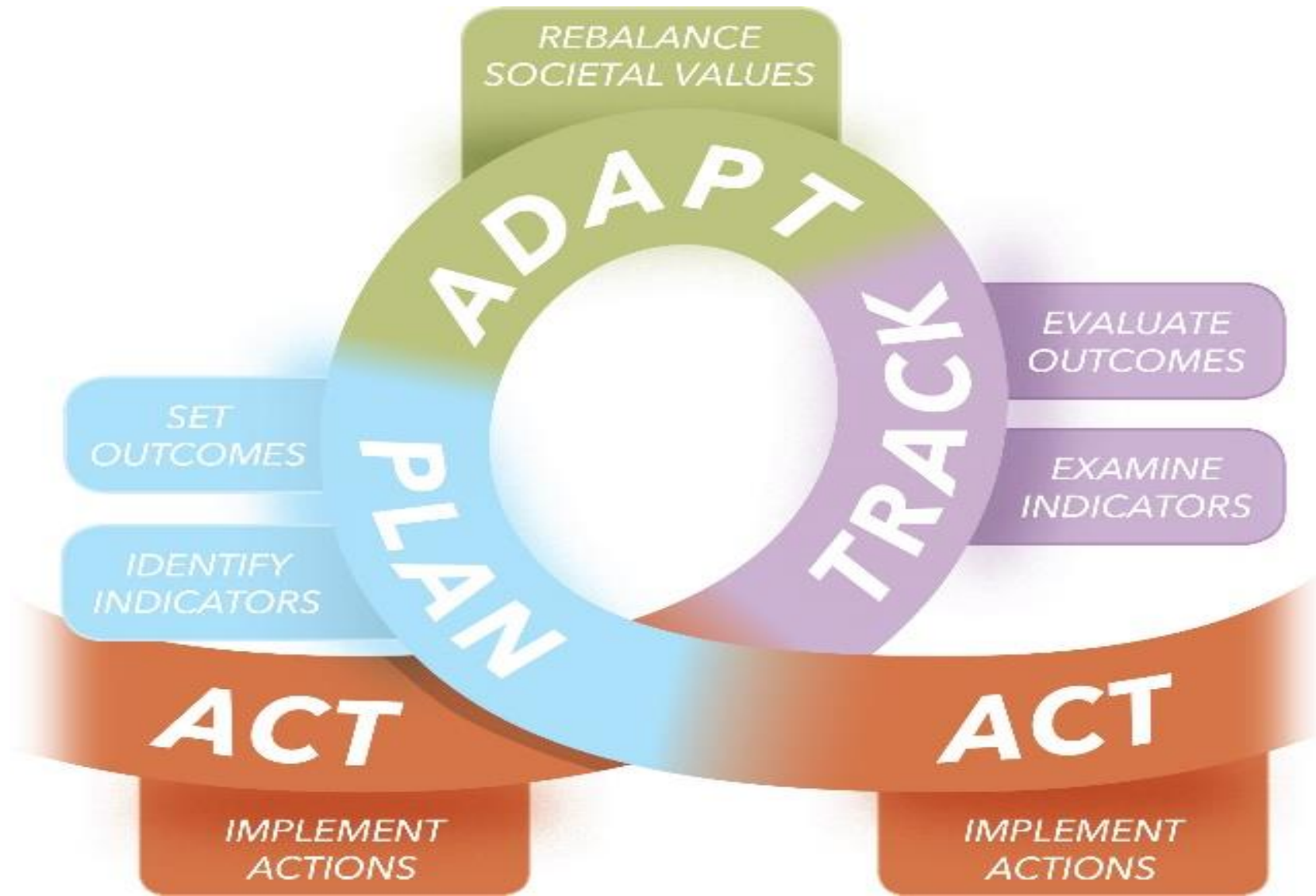
**Number of public water
systems (population
served) not in compliance
with drinking water
standards**

Update 2018 Watershed-Scale Pilots

Statewide is Aggregate of Regional Sustainability

- ❖ **Refining Sustainability Outlook for local application**
 - Proof of concept & scalability of indicators
 - Local/regional perspectives on impediments to sustainability
 - Place-based solutions for governance, regulations & funding
- ❖ **Initiated pilot projects in partnership with:**
 - California Forward
 - Pacific Institute
 - Water Foundation
 - Sonoma County Water Agency
 - Santa Ana Watershed Project Authority

Informed and Adaptive Management Brings Vision to Fruition



Sustainability Requires Time



Implementation Plan & Funding Schedule (Excerpt)

Table 5-1 Implementation and Annual Funding Schedule to Accomplish Update 2018's Recommended Actions (2016 dollars, millions)

	Year											
	1	2	3	4	5	6	7	8	9	10	11–30 ^a	31–50 ^a
Recommended Actions by Goal	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029–2048	2049–2068
Goal 1 – New or Modernized Infrastructure and Restored Ecosystems												
1.1.1 (a) – Green and Grey Infrastructure Assessment		2	75	100	200	200	100	100	80	60	60	60
1.1.1 (b) – Green and Grey Infrastructure Investment	215	215	215	300	300	300	300	400	500	600	1,342	1,540
1.1.2 – Statewide Green Infrastructure and Working Landscapes Task		1	1									
1.1.3 – Integrated Land Use and Water Management Program		2	50	100	100	100	100	100				
1.1.4 – Integrated Flood Managed Aquifer Recharge	3	4	5	5	5	15	15	15	15	15	15	15
1.2.1 (a) – Operations and Maintenance Assessment		2	30	30	30	30	30	10	10	10	10	10
1.2.1 (b) – Operations and Maintenance Investment	140	140	140	305	350	400	450	500	510	510	510	510
Goal 2 – Improved Alignment of Decisions, Initiatives, and Actions												
2.3.1 – Inventory and Evaluation of State Government Responsibilities		0.5	0.5	0.5								
2.3.2 – State Agency Alignment and Investment Prioritization		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
2.3.3 – Plan Alignment			0.25	0.25	0.25	0.25						
2.3.4 – Federal Advocacy Program		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
2.4.1 – Alignment at Appropriate Scales		0.5	1	1	0.5							
2.4.2 – Enhanced State-Regional Engagement in California Water Plan Updates	1	1	1	1	1	1	1	1	1	1	1	1
2.4.3 – Enhanced Engagement in Integrated Regional Water Management Groups		0.5	13	13	13	13	13	13	13	13	13	13
2.4.4 – Disadvantaged Community Liaisons			2	2	2	2	2	2	2	2	2	2
2.5.1 – Add Tribes to Lead Agency Definition			0.25									
2.5.2 – Tribal Involvement in Regional Planning Efforts			0.25	.25	0.25	0.25						
2.5.3 – Tribal-State Grant and Loan Contracting			0.25									
Goal 3 – Improved Regulatory Outcomes												
3.6.1 – Programmatic Environmental Compliance Task Force		1	1									
3.6.2 – Ecosystem Restoration Project Permitting			0.5	0.5								
3.6.3 – Evaluating Alternative Compliance Pathways			0.5	0.5								
3.6.4 – Delegation of Federal Permitting			0.5	0.5								

The Way Forward

Encourage State, regional, and local officials to:

- ❖ Authorize State agencies to implement the recommended actions per the schedule provided.
- ❖ Use the funding options to formulate funding strategies and methods.
- ❖ Provide annual funding to implement the actions.
- ❖ Use the new California Water Plan Annual Report to inform new policy and legislation.
- ❖ Begin to plan, align, and partner based on guidance for empowering regions.

Ways to Access Water Plan Information

➤ Visit the Water Plan Web Portal



California Water Plan

The California Water Plan

The California Water Plan (Water Plan) is the State government's strategic plan for managing and developing water resources statewide for current and future generations. It provides a collaborative planning framework for elected officials, agencies, tribes, water and resource managers, businesses, academia, stakeholders, and the public to develop findings and recommendations and make informed decisions for California's water future. To learn more about the Water Plan, visit our [About the Water Plan](#) page.

Water Plan eNews Weekly Newsletter

The Department of Water Resources (DWR) and the California Water Plan publish a weekly electronic newsletter to keep you informed about Water Plan news and other announcements. We encourage individuals to subscribe to receive updates on current and future Water Plan activities and to keep up-to-date on water resources news. We welcome comments, suggestions, and any other news tips that may be of interest to water planners. Please email us.

See this week's edition: October 19, 2016.

- eNews Archives
- Subscribe to Water Plan eNews



Water Plan News - Announcements

California Water Plan Update 2018 - 2016 Plenary Meeting

The date has been set for the first of the annual plenary meetings for Water Plan Update 2018. It will be Tuesday, Oct 25, in Sacramento. As the agenda, and other meeting details, are developed, they will be posted on the Meeting Materials page. The development of Update 2018 will include input from a Policy Advisory Committee (Policy AC) made up of representatives from a broad range of public and private sector interests. If you have any questions, please contact us at cwpc@water.ca.gov. (09/30/2016)

- California Water Plan Update 2018
- Meeting Materials
- RSVP

California Water Plan Update 2018 - Tribal AC Orientation Webinar

DWR has scheduled an Orientation Webinar for the Water Plan Update 2018 Tribal Advisory Committee (Tribal AC). Please register to participate. If you have any questions, please contact us at cwpc@water.ca.gov. (10/14/2016)

- Webinar Registration
- Tribal AC Webpage
- Meeting Materials

California Water Plan Home

- California Water Plan Updates
- Update 2018
- Update 2013
- Previous Reports
- About the Water Plan

COLLABORATION

- Calendar
- Meeting Materials
- Participation
- Public Comments

RESOURCES

- Resource Management Strategies
- Water Portfolios
- Water Footprint
- Sustainability
- Groundwater
- Scenarios
- GIS Data
- Water Quality
- More...

CONTACT US

Strategic Water Planning Branch
Department of Water Resources
901 P Street
Sacramento, CA 95814
(916) 653-7101

Mailing Address:
PO Box 942836

INTEGRATE

ALIGN

INVEST

CALIFORNIA WATER PLAN eNEWS

Wednesday Update Year-End 2015

This weekly electronic newsletter is designed to keep you current on California Water Plan news. We welcome comments, suggestions and any news tips that may be of interest to water planners.

California Water – A Tale of Extremes

2015 was another reminder that California's climate and hydrology pose many challenges for water managers. The state has endured four years of drought – one of the worst in recent history – and now, the forecast of a strong El Niño, brings the possibility of serious flooding. Ongoing and future changes to the climate are driving rising sea levels, altered precipitation patterns, and reduced Sierra Nevada snow pack – California's largest surface water reservoir.

Managing Water – Working Together to Shape Our Future

The water challenges facing our communities, watersheds, and economies compelled the State of California to embark on a comprehensive, multi-agency, and practical approach to water resources management. The process, outlined in the Governor's [Water Action Plan](#), encourages implementation of integrated, multi-benefit programs and projects.

Governor's Water Action Plan



- Ensure reliable water supplies for all Californians.
- Build capacity for regional sustainability.
- Manage floodwaters while protecting ecosystems.
- Take action to reduce residual risk.
- Set planning priorities and investments for a sustainable future.
- Protect our communities through State, federal, tribal, and local cooperation and commitment.

Since 2014, the action plan has focused State water leaders on common goals and actions, and it has leveraged general obligation bond revenues with existing agency budgets and other funding sources. But, full implementation of the plan, and related actions to improve water sustainability, will require investments above the current baseline budgets of State, federal, tribal, and local governments. Multiple, and more stable, funding sources will be needed to improve flood protection, provide reliable and clean water supplies, restore and enhance ecosystems, and provide for enriching experiences – that is, to achieve sustainable water management. Details are available in DWR's partnership paper, [Managing California Water Through Federal, State, and Local Cooperation](#).

Ever-greening California Water Plan for Update 2018

To be relevant, California Water Plan Update 2018 needs to report on Water Action Plan implementation and its related State initiatives such as the [Sustainable Groundwater Management Act](#), [State drought response](#), [Proposition 1 Water Bond](#), [future IRWM strategies](#), and [flood investment strategy](#). In addition to being State government's long-term strategic water plan, Update 2018 needs to – for the first time – identify specific outcomes and metrics to track performance, prioritize near-term State actions and investments, recommend financing methods having more stable revenues, and inform water deliberations and decisions as they unfold.

In 2016, DWR will engage State, federal, tribal and local agencies and stakeholders in the development of the plan. Opportunities to get involved will be announced in the [California Water Plan eNews](#).



➤ Subscribe to Water Plan eNews

Questions & Comments



Kamyar Guivetchi, PE
Statewide Integrated Water Management
CA Department Water Resources

kamyar.guivetchi@water.ca.gov